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Study on the impacts of land use change and climate change on indigenous reindeer herders' livelihoods and land management, including culturally adjusted criteria for indigenous land uses

Note by the secretariat

Summary

At its tenth session, in May 2011, the Permanent Forum appointed Anna Naykanchina,** a member of the Permanent Forum, to undertake a study on the impacts of land use change and climate change on indigenous reindeer herders' livelihoods and land management, including culturally adjusted criteria for indigenous land uses and requested the report be submitted to the Permanent Forum at its eleventh session, in May 2012.

* E/C.19/2012/1.

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I. Introduction

1. Reindeer pastoralism represents models in sustainable exploitation and management of Arctic terrestrial ecosystems that are based on generations of experience accumulated, conserved, developed and adapted to the climatic and political/economic systems of the North. Reindeer have major cultural and economic significance for indigenous peoples of the North. The human-ecological systems in the North, like reindeer pastoralism, are sensitive to change, more than in any other region of the globe, owing to the variability of the Arctic climate and the way of life of Arctic indigenous peoples. More than 20 indigenous groups are reindeer herding peoples. Reindeer husbandry is practised in Alaska, Canada, China, Finland, Greenland, Mongolia, Norway, the Russian Federation and Sweden. It involves some 100,000 herders and 2.5 million semi-domesticated reindeer.

2. World reindeer herders, owing to their experience, traditional knowledge and skills, have developed unique management strategies for the protection of pastures, observation of changes and the rational use of the natural resources. Reindeer herders should have the right to determine their own future, based on their own philosophy of life and understanding of the world. They should also be consulted, included and accepted as partners when development, research and monitoring take place on their territories. For many indigenous peoples, reindeer represent their cultural, economic, social and spiritual foundation. The intimate connection between humans and animals is perhaps best embodied by this relationship, as reindeer husbandry represents a connection ancient in origin and practised almost identically wherever it is found.

3. Recent reports by John B. Henriksen[1] and Lars-Anders Baer[2] have focused on climate change and its impacts in the Arctic on reindeer herding. In 2009, the Special Rapporteur on the Rights of Indigenous Peoples also reported on the critical conditions related to the loss of grazing land for Sami reindeer herders in Finland, Sweden and Norway. The Permanent Forum has also made recommendations that States must ensure that transnational corporations and other business enterprises on indigenous peoples' traditional lands comply with the specific standards contained in the United Nations Declaration on the Rights of Indigenous Peoples and the International Labour Organization Convention No. 169 concerning indigenous and tribal peoples in independent countries, 1989. According to Magga and others, the future for reindeer herders' communities is dependent on reindeer herders' use of traditional knowledge and integrating scientific knowledge when considering risks as well as the diversity of reindeer herders and their social organizations and economies, and understanding biological diversity and the flexible use of pastures.

4. The International Polar Year EALÁT (Reindeer Herders Vulnerability Network Study) Outreach Reindeer Herding and Climate Change in cooperation with the Association of World Reindeer Herders held a side event at the Permanent Forum in May 2011 based on the report of the Arctic Council. Recommendations from the

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[1] "The impacts of climate change and accelerated threats on traditional knowledge, innovations and practices: the specific vulnerabilities of indigenous and local communities of the Arctic, small island States and high altitudes", prepared for the secretariat of the Convention on Biological Diversity (2007).

[2] Study on the impact of climate change adaptation and mitigation measures on reindeer herding (E/C.19/2010/15).

side event included (a) an urgent need to implement international laws on the rights of indigenous peoples in domestic and local legal systems, and to ensure not only formal equality but also equality in practice of indigenous peoples' rights to lands, territories and resources; (b) a need to undertake a study on the impacts of land-use change and climate change on indigenous reindeer herders' economies and land management; (c) a need to increase reindeer herders' capacity in negotiating with developers competing for their grazing land in public or private industrial development and having access to free legal advice; and (d) a need to increase the transparency in decision-making concerning land use and resource exploration and exploitation.

II. Taiga and tundra reindeer husbandry

5. The 1600s marked a transformation of indigenous reindeer economies as competing nation States began a process of colonizing indigenous peoples by encroaching on their lands and utilizing their resources in the Arctic. For some, this represented an opportunity as reindeer herds grew to feed the growing markets. Russian expansion into the vastness of Siberia in search of fur was enabled by reindeer as both food and transportation. Today, there is a difference between tundra and taiga reindeer husbandry. Tundra refers to long migrations in the summer to coastal or mountain areas to flee insects and access better pastures. Winter marks a return inland to shelter, a more stable climate and a change in diet. Herds tend to be large, up to several thousand and migration routes are long, often many hundreds of kilometres. With a focus on meat production, this type is practiced by Sami, Nenets, Komi, Eveny, Chukchi and Koryak. Taiga reindeer husbandry is geographically widespread, and is characterized by smaller herds, by riding the animals, and much shorter migration routes in forested or mountainous areas. Animals are primarily used for transportation and milk production.

III. Climate change and reindeer husbandry

6. According to Oskal and Magga, climatic and socio-economic change are now evident across the Arctic, and particularly in reindeer herding cultures and in their traditional areas.[3] Global and regional scenarios project dramatic changes in temperature, precipitation and snow conditions in the key areas for reindeer herding and in social-economic changes for reindeer herding communities in the Arctic. Climate scenarios indicate that winter temperatures in Finnmark, Norway, and the Yamal Nenets Autonomous Okrug, Russian Federation, may increase by 7°C to 8°C in 100 years. The largest temperature increase is projected mainly for the inland, but warming is expected for the Yamal peninsula in the Russian north. Future scenarios indicate that Yamal Nenets Autonomous Okrug winter temperatures in the period from 2070 to 2100 may be comparable with inland Finnmark winter temperatures

[3] Anders Oskal and others, *EALÁT Reindeer Herders' Voice: Reindeer Herding, Traditional Knowledge and Adaptation to Climate Change and Changed Use of the Arctic*, Arctic Council Sustainable Development and Utilization Working Group EALÁT-Information Ministerial Report, International Centre for Reindeer Husbandry and Association of World Reindeer Herders. International Centre for Reindeer Husbandry Report No. 2 (2009).

during the period 1961 to 1990. Inland temperatures in Finnmark, Norway, may also resemble those of the coastal area of Finnmark (Nordreisa) today.

7. Indigenous traditional knowledge, culture, and language provide a central foundation for adaptation and resilience to the rapid changes in the Arctic. Reindeer herding cultures and traditional knowledge are inevitably affected by institutional governance, economic conditions and other regulatory practices and conditions. Both scientific and traditional experience-based knowledge, knowledge transformation and the education and training of future leaders are key factors for the future sustainability of reindeer herders' societies. Engaging reindeer herding youth directly in herding practices and providing enhanced education is a key factor in the future sustainability of reindeer husbandry and its cultural foundations. A vision of a self-sustained and adaptive reindeer community in the circumpolar North is increasingly faced with rapid climate change, regulatory challenges, and altered or degraded pasture lands. Addressing climate change in reindeer herding societies might require novel methodological approaches. Recognizing the ability to adapt to change, as demonstrated by reindeer herding, is based on knowledge embodied in the language, the institutions of pastoralism and the knowledge and actions of individual herders, which should also be documented, analysed and combined with data in the social and natural sciences.

IV. Land use change and reindeer husbandry

8. It is important to recognize that reindeer nomadism is a highly extensive form of land use. The degradation of pasture lands, combined with the consequences of a changing climate, presents substantial challenges to the future of reindeer husbandry.[4] For herders, the principal issue is the securing of the habitat and landscapes in which to graze their reindeer in different seasons and conditions. Indeed, the progressive and effectively irreversible loss of the uncultivated lands that reindeer use as pasture is probably the single greatest threat to reindeer husbandry in the circumpolar North today. The preservation of rangeland is, likewise, perhaps the single greatest priority for sustaining the resilience of reindeer herding confronted by changes owing to climate change, and the socio-economic environment. It is important to recognize the special rights of indigenous reindeer herding peoples to their traditional living areas, and that these rights also include the right to land use, management, protection and natural resources.

9. Mattias Åhrén, President of the Saami Council, on the occasion of the sixth Ministerial Meeting of the Arctic Council, held on 29 April 2009 in Tromsø, requested States to consider indigenous territories in their claims to natural resources in the Arctic. Likewise, the International Polar Year EALÁT pointed out that the ability of reindeer herders to adapt to climate change would be jeopardized by industrial development and would impact on the nature-based livelihoods of indigenous peoples.

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[4] Ingunn Vistnes and others, *Reindeer Husbandry and Barents 2030: Impacts of Future Petroleum Development on Reindeer Husbandry in the Barents Region*, report for StatoilHydro Barents 2030 Scenario Programme, International Centre for Reindeer Husbandry Report No. 1 (2009).

V. Reindeer herding: case analysis

A. Sápmi Norway, Finland and Sweden

10. During the nineteenth and twentieth centuries, the traditional areas of Sami reindeer husbandry were divided between the borders of four nation States: Norway, Sweden, Finland and the Russian Federation. Approximately 6,500 Samis work as reindeer herders in Scandinavia. Reindeer husbandry in the Sápmi region is characterized by larger herds in Norway and Sweden and a high degree of mechanization. Reindeer are primarily used for their meat production, though hides, bones and antlers are an important source of material for clothing and handicrafts. Recruitment to the industry has been limited in Norway and Sweden by legislation, and a lack of pastures and economic opportunities has limited the expansion of the livelihood.

11. Today the high north strategy of Norway includes the development of new industrial projects such as mining, offshore oil/gas extraction, green energy and tourism in the regions traditionally used by Sami people. It is important to provide information and insights on how resource conflicts could be avoided by including local Arctic societies and right holders such as reindeer herders at the early planning stages in any industrial development. Facing the new industrial development of the Arctic, there is a real danger that the benefits from industrial development will only be awarded to mainstream society, while indigenous peoples will bear the costs. Further, these industrial projects were planned at the same time when it was officially decided to decrease the numbers of reindeer and reindeer herders in Finnmark county of northern Norway. That decision was based on the need to maintain sustainable reindeer husbandry. Furthermore, Norway has not yet developed climate change adaptation strategy plans for Sami reindeer husbandry, which might result in decreasing the herders' vulnerability to future changes. It therefore raises questions as to whether the research and education methods about reindeer herding in Norway, which were applied over the past 30 years, are now adequate to deal with the new challenges in the Arctic.

12. Sami reindeer herders in Norway should be able to meet the global challenges at a time when various national and global actors are able to coordinate their goals and strategies in the herders' pasture areas. Reindeer pastoralism must be empowered to face the effect of global changes in the Arctic. New educational programmes that take into account Arctic culture, resilience, sustainable development, climate change and insights into indigenous peoples' societies and languages should be developed. Future training of Arctic leaders might be one way to avoid conflict between herders and developers and respect the reindeer societies' basic need for survival.

13. In Finland, reindeer husbandry is not ethnically restricted to Sami and the livelihood is open to any individual from the European Union. In total, there are approximately 5,600 reindeer owners, the vast majority of whom are Finns. The reindeer husbandry area in Finland lies in the most northerly parts of the country and covers almost the entire area of the Province of Lapland and part of the Province of Oulu. The reindeer husbandry area covers 114,000 km^2, which is 36 per cent of the entire surface area of Finland. The northernmost part of the Finnish reindeer husbandry region is classified as the "Sami reindeer herding area", where Sami reindeer husbandry is concentrated. Reindeer herding is administered through

a reindeer cooperative system of which each reindeer owner is a member. The current maximum number of reindeer in Finland has been set at 200,000, with individual ownership restricted from between 3 and 500 reindeer, depending upon location.

14. Two contradictory trends can be traced in global resource politics, which is also reflected in Sweden. On the one hand, there is a growing global acknowledgement of the indigenous territorial and resource rights and the recognition of those rights for all indigenous peoples, including the Sami. It also includes the recognition of the continued survival of traditional land uses, such as reindeer herding. On the other hand, there is a dramatic increase in extractive activities and infrastructure projects on traditional indigenous lands, owing to and including rising global commodity prices, energy demands, changing climate policies, and population increases. As the situation currently stands, the last remaining Sami reindeer herding lands are being fragmented, piece by piece, by forestry, wind-power parks, mining projects and hydropower developments.

15. While Sweden is generally highly regarded for its respect for and advocacy of human rights and indigenous peoples' rights abroad, Sweden has received ongoing criticism from the United Nations for not acknowledging Sami resource rights at home.[5] Given this governance gap, and the lack of protection of Sami rights by the Swedish State, increasing attention is being paid to the responsibilities that corporations must bear for their activities. This is often mediated through discourses of corporate social responsibility. Implicit in the concept of corporate social responsibility is the idea that corporations should go beyond what is required by national laws. There are few companies in Sweden going beyond the law in terms of recognizing Sami rights. In short, corporate social responsibility practices in Sweden remain undeveloped. Moreover, while there are some (limited) positive examples of companies going beyond the law, these same companies have reported that other companies have pressured them not to go beyond the law, for fear that it would "raise the bar" for the industry as a whole. Undoubtedly, there is much room for development in Sweden for better corporate social responsibility practices, yet corporate social responsibility can never be the single solution to the question of indigenous rights. Corporate social responsibility is a double-edged sword: it encourages companies to go beyond the law, but this is only ever voluntary. Better corporate social responsibility practices also need to be matched with a stronger national legislation and regulation concerning Sami rights.

16. The fact remains that national legislation and regulation in Sweden is lacking, and many Sami communities, alongside non-governmental organizations such as the Saami Council and the National Swedish Sami Association, have sought to make corporations accountable for respecting Sami rights, even if the State will not. First, Swedish corporations operating in Sweden generally perceive corporate social responsibility issues, including human rights and indigenous rights, to be primarily the concerns of the developing world, such as Africa or South America. Rarely do Swedish companies accept that indigenous rights should be a relevant concern for their Swedish operations. What might be described as a Swedish sense of "self-

[5] See, e.g., the report of the Special Rapporteur on the rights of indigenous peoples on the situation of the Sápmi region of Norway, Sweden and Finland (A/HCR/18/35/Add.2), paras. 46 and 47. See also Nigel Bankes, "Legal systems" in Arctic Council, *Arctic Human Development Report* (2004).

righteousness" (*självgodhet*) blinds Swedish companies to the fact that Sweden does not currently live up to international standards and norms on indigenous rights. A similar "blind faith" can also be witnessed with foreign companies operating in Sweden, particularly in the exploration and mining industry. For example, Australian and Canadian companies commonly place an enormous amount of trust in the Swedish Government and Swedish authorities to "deal with Sami issues". Secondly, many Swedish companies, particularly in the mining, forestry and hydropower industries, have played an active role in the colonization of Sami lands and the dispossession of Sami from their traditional territories. This is not something that is generally recognized or spoken about within these industries. In other words, no acknowledgement is given to the historical and ongoing industrial colonization of Swedish Sápmi by the resource industries. Thus, companies commonly perceive their activities as justified because they have a State permit. But they fail to recognize that the planning processes by which they have acquired a State permit marginalize Sami interests and do not guarantee the protection of Sami rights. Thirdly, structural discrimination and racial prejudice against Sami people continue to persist in both the private and public sectors in Sweden.[6] This constrains the opportunities of the Sami people to influence the planning processes and resource projects affecting their traditional lands and resource rights.

B. Yamal, North-west Siberia

17. The Nenets live mainly in the tundra, forest tundra and northern taiga belt of Europe and western Siberia from the Kanin Peninsula in the west, to the Gydansk-Peninsula of the Yenisey delta. They form the largest indigenous group of the Russian north and are one of the world's biggest reindeer herding peoples. The bulk of Nenets reindeer husbandry is situated on the Yamal Peninsula, which is the world's largest area of reindeer husbandry. Reindeer are used for meat production, clothing, traditional handicraft production and transportation. Reindeer are central to the social, cultural, spiritual and economic life of the Nenets.

18. Land, including pasture quality and availability, is the main concern for the Yamal reindeer herders, who still exercise their traditional nomadic livelihood, migrating with reindeer up to 1,000 km a year. The problem of land use change in Yamal might be divided into several dimensions, namely (a) land use change owing to industrial development of natural resources; (b) different legal status of lands used by herders in the one-year cycle of their migration; and (c) the discrepancies in the rights to land attached to the organizational status of reindeer herders.

19. Industrial development of hydrocarbon resources in the Yamal-Nenets region Autonomous Okrug has played a key role in energy well-being of the Russian Federation. The region provides 90 per cent of Russian Federation gas production and there is no alternative to opening the Yamal Peninsula reserves to support the current level of gas production. The project development of Yamal hydrocarbon reserves includes the development of railways and pipelines, drilling facilities, housing for newcomers in the industrial areas and other infrastructures connecting the Tambey, Bovanenkovo and South groups of oil and gas fields. Until recently, the peninsula had no transport and other infrastructure, but will now have facilities for

[6] http://www.do.se/Documents/Material/Gamla%20ombudsm%c3%a4nnens%20material/discrimination-of-the-Sami.pdf.

the drilling, extraction and transportation of oil and gas. For reindeer herders, such activities cause direct pasture loss and decrease in pasture quality in the areas around the industrial objects. Although the physical footprint of oil and gas production and transportation infrastructure might take less than 1 per cent of the territory, the industrial development has a strong impact on the system of traditional migration patterns. Some families have to move to new pastures and feel they have lost their homelands.

20. The different legal status of lands used by herders in the annual cycle of their migration complicates obtaining official permission for land use. Traditionally, the winter pastures of many reindeer herders from the Yamal peninsula are located in the forest zone across the Ob bay in the Nadym municipality. According to Russian law, the forests which are the winter pastures are under federal jurisdiction and can be licensed out for the maximum period of five years. While the tundra zone, which is the spring, summer and autumn pastures, is under the regional jurisdictions, it is the authorities of the Yamal-Nenets Autonomous Okrug who manage the land use and have the right to license these territories out for the maximum period of 25 years. These disproportionate rental times and the application of different legal regimes make it difficult for reindeer herders to establish the full and official permissions to use the land that is needed in the one-year cycle of nomadic migration.

21. The discrepancies in the rights to land attached to the organizational status of reindeer herders are the biggest potential threats for traditional reindeer herding land use. Currently reindeer husbandry is organized in three structures: (a) large reindeer herding enterprises (the former Soviet State agricultural organization), which are the official pasture land users; (b) private herders, who are organized as legal entities called communities (or *obshchiny*), which inform the State about the pastures they are using; (c) private herders (so-called individual households), who are not a part of any legal entity. Currently, private herders do not have a legal right to use the pasture lands for their traditional livelihood, since pastures in Yamal municipality are officially rented by large reindeer-herder enterprises. In the Yamal-Nenets Autonomous Okrug, there is a political understanding of the customary right to land as there is no legal prohibition or restriction for any reindeer herder to use the pastures. The immediate legal implication for private herders is their lack of involvement in and lack of information about industrial activities on their traditional pastures. In Yamal, the private herders are more vulnerable to both the loss of grazing land to the rapid industrial development and the change in political will towards controlling and restricting reindeer husbandry with respect to pasture use and the number of reindeer.

C. Republic of Sakha (Yakutia)

22. The Republic of Sakha (Yakutia) is the largest region of the Russian Federation, with territory covering one fifth of the Federation. With such a vast size, reindeer herding is as diverse as the region itself. The Republic of Sakha (Yakutia) includes high Arctic, subarctic, mountain-taiga and taiga ecosystems. Five distinct indigenous peoples herd reindeer in Sakha: Eveny, Evenki, Dolgans, Yukagirs and Chukchi. Twenty-five per cent of the entire Republic is considered as reindeer pastures, although it has been estimated that there are more lands in the Republic that could potentially be used as grazing lands for reindeer, signifying its potential

for growth.[7] The vast majority of reindeer pastures and potential pastures are in the forestry zone of the Republic.[7] This is important as according to Russian legislation, the forestry lands are under Federal management, while lands that are designated as agricultural are under the management of the local authorities.

23. Currently there are over 200,000 reindeer herded by over 2,200 people who work and migrate with reindeer on a full-time basis. Reindeer are owned primarily by various State and public bodies, although nearly 10 per cent are held privately.[8] There are a wide variety of subsidies that are provided to herders by the regions in areas that include increased livestock, transportation and education.

24. In the Republic of Sakha (Yakutia), 80,437.2 thousand hectares of land, or 25.8 per cent of the total area of the Republic, are accounted by the land cadastre authorities as reindeer pastures. However, the same authorities recently recognized that there are more lands in the Republic that potentially could be used as grazing lands for reindeer,[7] while the category "reindeer herding land" does not exist as such in the official land classification, but there are "forestry fund land" and "land of agricultural designation".

25. In Yakutia, the most significant areas of reindeer pastures are located in the forests and include 75 per cent of pasture lands, 15 per cent of agricultural lands and 9 per cent are protected areas.[9] According to Russian legislation, the forestry lands are under the federal management, while lands of agricultural designation are under the management of the local authorities.

26. The neighbouring district of Olenek is now becoming important in the development of the diamond industry. The Prime Minister of the Russian Federation has recently signed the decree on license rights to the new diamond deposit, Verkhne-Munskoe, in the middle of Olenek region.[10] For both Anabar and Olenek districts, the problem of wild reindeer grazing and their migration routes is most challenging. During the 1990s, many domestic reindeer were lost and lured away by the wild reindeer belonging to the Bulun, Leno-Olenek and Taimyr populations. This also represented a loss of reindeer herding pastures owing to climate change as well as changes in the wild deer populations, which had been controlled during the Soviet times. The routes of wild reindeer migrations have also changed and become unpredictable. At an EALÁT workshop in Anabar and Olenek, the participants drew attention to an urgent need to develop monitoring systems on the migrations of wild reindeer and to preserve traditional knowledge.

27. An EALÁT workshop was also held in the settlement of Topolinoe in the Tompo region, the eastern economic district of Yakutia where there are plans for industrial development. It is related to the implementation of the so-called Tompo mining district investment project designated in the Scheme 2020. This project includes the extraction of natural resources of gold, wolfram, copper and steam coal. The effects on indigenous peoples in the area and their traditional land use were completely ignored in the project. No assessment of the potential environmental damage and the withdrawal of reindeer pastures was made, nor was any compensation for the possible losses considered.

[7] National report, 2009.

[8] Ministry of Agriculture of the Republic of Sakha (Yakutia), 2010.

[9] State National Report, 2009.

[10] Russian International News and Information Agency (RIA Novosti).

28. Among the three projected industrial areas, the most intensive industrial development is already happening in the southern economic district of Yakutia. This region is a home to more than 4,000 Evenki, Eveny and other indigenous reindeer herders involved in a very special type of taiga reindeer husbandry as well as more than 60 nomadic *obshinas* and few States, collective and municipal reindeer herding enterprises. In this area reindeer pastures, hunting and fishing grounds are used by reindeer herding units and communities of Aldan, Olekma and Neryungri *ulus*.

Integrated development of Southern Yakutia

29. The plans for regional development will cause a reduction in reindeer pastures as well as their fragmentation and degradation. The participants of workshops held in Southern Yakutia were concerned with the industrial development of their territories, in particular with the reduction of reindeer pastures, environmental degradation and the lack of dialogue between herders and industrial companies. The herders reported that their interests were not taken into consideration when making decisions regarding the development of the area. For example, the reindeer-herding community of Idzhek has repeatedly appealed to RusHydro company to take the herders' interests into account when designing and constructing the Cancun hydropower plant. The winter pastures of the community are in the area of the proposed hydroelectric dam and it is expected they will be flooded by the dam. However, no formal response was received either from the company or from representatives of the Government.[11]

30. Owing to industrial development moving into the reindeer pastures, there are challenges for reindeer herders, such as disturbance for animals, loss of pastures, degradation of land, loss of biodiversity and poaching of reindeer, which limits their coping and adaptation strategies. Climate change and globalization are also important drivers that affect reindeer herding. At the same time, economic development of the region brings some prospects and opportunities for reindeer herders, such as the development of reindeer meat markets, access to transportation and communication infrastructure and social services. The challenge is to balance the impacts and prospects that development brings to reindeer herders.

D. Baikal region

31. The Baikal region covers the territory of the drainage basin of Baikal and includes three subjects of the Russian Federation (Republic of Buryatia, Zabaykalsky Krai, and Irkutsk Oblast). The use of the term "Baikal region" is relatively recent. Previously, the standard terms used in regional economics were "Pribaikalye" (an area adjacent to Baikal of the Irkutsk Oblast) and "Zabaikalye" (a part of the Republic of Buryatia and Zabaykalsky Krai). The total area size of the Baikal region is 315,000 km^2. From ancient times, this area was home to indigenous peoples (the Evenki, the Tofalars, and the Soyots) practising the taiga type of northern reindeer herding.

32. Owing to the national policy of the Government, the Soyots (the Okinsky District of the Republic of Buryatia) completely lost the practice of reindeer herding. In 1963, reindeer herding in Okinsky District was declared unproductive

[11] Results from the EALÁT workshop, held in Khatystyr in 2009.

and eradicated, which led to an irrevocable loss of the valuable gene pool of the domestic animal. Towards the end of the 1980s, the community, with the support of the district administration, decided to restore reindeer herding. Reindeer were bought in the Nizhneudinsk region of the Irkutsk Oblast; however, during the intervening years the Soyots had lost all knowledge of reindeer herding. As at 1 January 2011, only the closed joint stock company "Erbyek" is engaged in reindeer herding and maintains 22 reindeers.

33. The Government has been inattentive to reindeer herding as a sector of traditional economic activity, and the organizational issues such as economic and livestock-veterinarian problems were poorly solved. Thus, in the Soviet years the reindeer were kept by the *kolkhoz* (collective farms) and *solkhoz* (State-farms), there was a loss of interest in reindeer herding owing to the decrease in cargo transportation and geological expeditions for industrial needs were no longer hired. Reindeer herding became subject to the effects of the Soviet crisis period, which led to a very difficult situation. The fall in the northern domestic reindeer population ensued as result of a decrease in governmental support of northern *kolkhoz* and *solkhoz*, the low subsistence level, the weak adaptability by the indigenous peoples of the North to the quickly changing market circumstances of the economy and the low level of commodity production in reindeer herding and marketability.

34. At the beginning of 2004, there was a small rise in the domestic reindeer population of the Baikal region. This was largely promoted by the State as an approach to the problems of reindeer herding adopted by State powers, and also because of measures taken in the sphere of agriculture and agriculture product market regulation. In order to provide governmental support to northern reindeer herding from the budget funds, certain measures were taken, such as adjusting the accountability of reindeer economies and organizing subsidies.

35. In spite of the measures taken in resolving the issues of reindeer herding some problems of taiga reindeer herding in the region still remain. Over the years no improvements were made in the breeding and productive qualities of the reindeer. Secondly, the indigenous peoples' communities have no fixed territories and reindeer grazing fields. All reindeer grazing fields are located within forested areas that are in federal possession, and the area unit usage rent is very high. Thirdly, reindeer herding as a sector of the agricultural economy does not exist in the agricultural register of the Irkutsk Oblast. Fourthly, there is a lack of regional laws and economic programmes that support and help develop reindeer herding. Fifthly, reindeer herding is greatly damaged by predators (wolves). Sixthly, there is the issue of the development of the traditional territories of the indigenous peoples by the mining, gas and oil industries, and the building of the Baikal/Amur railway and road, resulting in deforestation. The threat to the future of the taiga reindeer herding in the Baikal region is evident. Furthermore, the territories of the traditional habitat of the indigenous peoples, and the places of their traditional way of life, may be subject to the development of new minefields and industrial companies. The reindeer grazing fields and the camping areas of the reindeer herders will be negatively affected by industry. The Strategy for Social and Economic Development of the Far East and the Baikal region up to 2025, adopted by the Government of the Russian Federation, is aimed at speeding up the growth (on an innovative basis) of the economic potential of that part of the country in order to realize the interests of the Russian Federation in the Asia-Pacific region. The Strategy assumes a total use of the natural resources of the region.

E. Sakhalin

36. Reindeer herding in Sakhalin has twice been subjected to forced and acute changes from the Government; however, the most drastic change is happening on the current stage. According to research, reindeer herding came to Sakhalin at the end of the sixteenth century and beginning of the seventeenth century along with reindeer herders, the Evenki, who migrated from the mainland. The reindeer population was at its highest in the 1960s and 1970s, the peak period in the development of the collective economy of the Ul'ta and the Evenki. Until 1985 the herd of the domestic reindeer consisted of 15,000 to 18,000 head, however, that number had greatly decreased, eightfold to tenfold, by the 1990s. The process of the significant decrease in the population of domestic northern reindeer began in the 1990s. In 1991, 4,000 head were counted in total in all categories of the economies (collective and private) of the region, and 1,788 head in 1999. In the last 10 years, only one enterprise has engaged in domestic reindeer herding in the Sakhalin Oblast, and that is the national corporation "Valleta". According to the data of the president of the development corporation, there are now 164 reindeer in his management. The industrial oil and gas production that became widespread at the end of the 1950s in the Nogliksky District has in part affected the regress of the Ul'ta reindeer herding. In the 1970s and 1980s, some areas of land were used for developing oilfields and pipelines, as well as for building railway lines, without any consent or compensation to the communities. All grazing field areas in the village of Nogliki to the settlement of Val were taken away from the reindeer herders and this territory was equipped with oilfields belonging to the company "Sakhalinmorneftegaz". Currently, the reindeer herding situation remains very problematic. The development of oil and gas on the Sea of Okhotsk shelf by foreign and domestic companies, as well as the activities of coal mining, construction of land terminals and pipelines, have affected reindeer herding. Poaching, the feralization of the domestic reindeer, the increasing number of predators (wolves), massive deforestation, a decrease in the number of reindeer moss, high rent for northern reindeer herding, at 5.35 rubles per hectare on forest area units and many other reasons have also led to the catastrophic situation of reindeer herding in Sakhalin.

F. Mongolia

37. Domesticated reindeer herding in Mongolia takes place along the borders of the Russian autonomous republics of Tuva and Buryatia, on the south slopes of the Sayan Mountains. The Dukha system of reindeer husbandry is unique in that it operates on the edge of the transition between taiga and the steppe biomes, on the edge of a reindeer's natural habitat. The herders are Dukha people, the smallest ethnic minority in Mongolia. Their herding traditions are believed to be ancient. Some scientists believe that it was in the Sayan Mountains that the domestication and herding of reindeer first started several thousand years ago. The Dukha population presently includes approximately 200 nomadic reindeer herders and some 300 people who have adopted a more settled lifestyle in the sum centre. Dukha reindeer husbandry is characterized by small-sized herds and highly nomadic management, although the current herds are below a sustainable level. About 40 families herd a total of approximately 1,500 reindeer. Today, herding families

typically own between 20 and 150 reindeer, although some own as few as 5, while a sustainable number would be 50 to 70 reindeer per family.

38. Traditionally, the Mongolian taiga reindeer herders had small reindeer herds, and the animals were primarily used for transportation and milk production and occasionally slaughtered for consumption. Currently, hunting is an important part of the Dukha herders' livelihood. Wild game is the primary source of meat and protein to the Dukha, and the fur and skins were exchanged for other goods. A field study conducted in June 2011 provided information on the current challenges for securing Mongolian reindeer husbandry for the future. Many of the challenges were related to the precarious socio-economic situation of reindeer herders within a market economy. Since the 1990s, governmental subsidies for salaries and other services have disappeared after 70 years of a communist regime, and the need for cash income to buy essential services has increased in this formerly subsistence community. The market economy, combined with increasing compensation for the land, has impacted the reindeer herders' land use. Further, the Dukha people have no community members in elected positions at any level of government. They have limited access to legal counsel and information regarding civil and human rights, and have no formal ownership or possession of the taiga; all these factors make them vulnerable to exclusion and exploitation.

39. In 2011, the Office of the United Nations High Commissioner for Refugees reported that the Dukha people faced widespread societal and institutional discrimination and human rights violations within Mongolian society. The United Nations Educational, Scientific and Cultural Organization *Red Book on Endangered Languages* lists the Mongolian reindeer herders' Tuvan language as seriously threatened. The reindeer herders interviewed argued that only teaching the children the Tuvan language would secure the indigenous knowledge of the reindeer herding culture and secure the recruitment of a next generation of herders.[5] In addition to being the home of the Dukha reindeer herders, the Mongolian taiga is also a globally significant region. As the taiga is also rich in natural resources and a highly rated tourism destination, the herders and the biodiversity are increasingly affected by gold miners, forest loggers and taiga tourists. This situation requires urgent national and international attention and action for strengthening the traditional livelihood of reindeer herders, restoring the ecosystems and the protection of a number of endangered species. The Dukha reindeer herders have shown resilience over many years by adapting to changing governance regimes, such as the establishment of national borders cutting through migration routes, the collectivization of reindeer herds and the transition to a market economy. Their herd size has fluctuated, but the herders have until now always been able to increase the number of reindeer after a crisis. However, there are limits to the herders' capacity for adaptation. There is an urgent need to secure reindeer husbandry as a resilient and sustainable livelihood and further, to ensure that the Dukha reindeer herders are able to maintain their cultural identity and rely on nature for their livelihood and well-being, and control their own destiny.

VI. Conclusion

40. Rapid industrial development, combined with social, economic and climate change and variability, are creating major challenges for the indigenous reindeer herder communities in the Arctic. Indigenous adaptation is strengthened by active

practice of traditional knowledge accumulated through generations of reindeer herders. Indigenous peoples' interest and their knowledge should be considered at the early stages of industrial development. There is also an urgent need to implement international laws on the rights of indigenous peoples and ensure their rights to lands, territories and resources. This includes recognizing herders' use and management of grazing land by identifying cultural practices for indigenous land use. There is a need to increase the transparency in decision-making concerning land use and resource exploration and exploitation in the Arctic and access to free legal advice regarding development issues. There is increased marginalization of herders when they do not benefit from industrial development, or when cultural values are not recognized and local codes of conduct are ignored. There is also a need for new mechanisms replacing impact assessments relating to the extraction of energy resources in the Arctic so that small Arctic societies are respected and included in any development process. Reindeer herders' rights have to be considered in view of any Arctic governance opportunities and international cooperation that facilitates stronger corporate social responsibility by the companies involved. Reindeer herders' sustainable small business must be included in the discussions during the process of development in the Arctic.

VII. Recommendations

41. It is recommended that States of the Arctic support private reindeer herding as a key foundation for the development and maintenance of sustainable reindeer husbandry.

42. It is recommended that the Arctic Council establish a "Reindeer herders' watch", which would be a tool for monitoring changes in reindeer pastures that includes a yearly report on changes in reindeer herding.

43. It is recommended that Arctic States recognize nomadic reindeer herding as a unique and incomparable indigenous livelihood and that nomadic indigenous livelihood and economy requires special attention and protection in the future owing to rapid changes in the Arctic.

44. Arctic States and private industry need to support the establishment of new institutional mechanisms based on reindeer herders' knowledge, rights and world views that secure the ability of reindeer herders to negotiate with industrial developers on an equal footing. Further, it is recommended that legal advice information about the effects of industrial development be provided and that there is development of new juridical tools to support these institutional mechanisms to avoid future conflicts.

45. Arctic States and industrial developers must recognize the integrity and holistic view of the use of reindeer pastures that is based on herders' traditional knowledge.

46. Fishing is an important part of the economy of indigenous reindeer herding people living a traditional nomadic life, and therefore, industrial development should be restricted in the waterways.

47. The Russian Federation should integrate special amendments into the federal legislation of the forest and land codes to provide the land for traditional economies, including reindeer husbandry.

48. It is recommended the Government of the Russian Federation, the State Duma and the Council of the Federation make it easier and practicably possible to register traditional grazing lands, based on the principle that reindeer herders can use pastures free of charge.

49. It is recommended that the Global Environment Facility be urged to fully endorse the UNEP project entitled "Enhancing the resilience of pastoral ecosystems and livelihoods of nomadic herders" (Nomadic Herders Project), coordinated by the International Centre for Reindeer Husbandry and GRID Arendal.

50. It is recommended that Arctic States fully implement the Arctic Council project Eallin, "Reindeer-herding youth", led by the Association of World Reindeer Herders and the Russian Federation.

51. It is recommended that industrial developers in the Arctic respect the results from public hearings related to industrial development in reindeer herders pasture land and the results be mandatory for those authorities who consider commercial development in the territories where traditional nature use occurs.

52. It is recommended that Arctic States and industrial developers be urged to improve the standards used in impact assessments and agreements with reindeer herders so that they take into account the structure and knowledge of nomadic societies and the cultural base for pasture use and to include herders in the process as early as possible to avoid conflicts.

53. It is recommended that Finland accept the legal status of, and provide special protection to, Sami reindeer husbandry in Finland.

54. It is recommended that the Arctic Council be urged to investigate if the loss of grazing land does affect the reindeer herders' indigenous cultures.

55. It is recommended that Arctic States take the steps necessary to identify the lands that reindeer herding peoples traditionally occupy, and to guarantee effective protection of their rights of ownership and possession and to continually monitor land use changes in such areas.

56. It is recommended that the Arctic Council:

(a) Initiate a project to identify reindeer pastures, monitor land use changes and report annually on land use change as well as secure the status of reindeer pastures, taking into account the customary rights of indigenous peoples;

(b) Implement tools that monitor the migration of wild reindeer and regulate their numbers;

(c) Create an education system in the traditional economic activities of indigenous peoples, and develop conservation projects that document traditional knowledge, language and culture.

57. It is recommended there be secure education opportunities for reindeer herding youth, both in terms of locally based education programmes and in terms of funding options. As the system of education of reindeer herders cannot exist outside of a nomadic way of life, it is very important to develop educational institutions and adaptive models of education that are suited to the specific needs of reindeer herders and their families in particular, such as nomadic schools and distance learning systems.

58. It is recommended that relevant United Nations agencies be urged to support the Arctic Lavvu Dialogue between industrial developers in the Arctic and circumpolar reindeer herders.